



Water Situation in India

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(This editorial is based on the article '[Challenges in water governance](#)' which appeared in 'The Economic and Political Weekly' on 13th April, 2019. The article talks about the importance of water as a resource and the challenges it is facing in recent times.)

Water permeates the cultural, social, economic and political fabric of India. A massive concentration of people compounded with high poverty rates and a monsoonal climate creates great susceptibility to hydrological shocks in India than anywhere else.

If India is to make progress on major development challenges, including food security, rapid urbanization, sustainable rural development, disaster risk management, adaptation to climate change, equitable allocation of natural resources, and economic cooperation with its neighbours in the region, water would be playing the most important role.

However India is facing a worsening water crisis, therefore making it more important than ever to curb the unabated wastage of our precious resource.

Water-Water everywhere not a drop to drink

India is facing an unprecedented and worsening water crisis. The rivers are getting more polluted, their catchments, water-holding and water-harvesting mechanisms are deteriorating, and groundwater levels are depleting at an alarming rate.

India's water crisis is often attributed to the urbanisation, industrialisation and human waste flowing into water sources and polluting groundwater, as well as corruption at different levels that delay various processes and tasks.

A large part of western and southern India is facing a drought at present. Some of these areas, for example, Kerala and the Cauvery basin in Karnataka and Tamil Nadu, are the areas that faced floods recently.

Water tables, the level below which the ground is saturated with water, are falling in most parts of India. Minerals like fluoride, arsenic, mercury, and uranium are present in the

groundwater, which lead to chronic water borne diseases.

The World Bank estimates that 21 percent of communicable diseases in India are linked to unsafe water and lack of hygiene practices. Further, more than 500 children under the age of five die each day from diarrhoea in India alone.

As per the report submitted by the Committee on Restructuring the Central Water Commission (CWC) and the Central Ground Water Board (CGWB), 2016 if the current pattern of demand continues, about half of the demand for water will be unmet by 2030.

Climate change poses fresh challenges as more extreme rates of rainfall and evapotranspiration intensify the impacts of floods and droughts.

Challenges faced by water sector

Amongst the challenges that the water sector is confronted with, the first is that of the lack of credible “water information,” that is, information about water storage, groundwater, water flows and, in some cases, even rainfall and snowfall levels.

Data systems related to water in the country are limited in their coverage, robustness, and efficiency. First, data is often not available at the adequate level of detail, moreover wherever data is available; it is often unreliable due to the use of outdated collection techniques and methodologies.

Second big challenge of the water sector is the inefficacy of the existing water regulatory bodies. Central Water Commission (CWC), Central Ground Water Board, Central Ground Water Authority, State Pollution Control Boards and Central Pollution Control Board, among others are grappled by typical top-down, bureaucratic, unaccountable, non-transparent and non-participatory mindset.

Indian groundwater faces a crisis of sustainability. There have been several warning bells about this, including by the National Aeronautics and Space Administration (NASA 2009), based on a study of depletion in groundwater levels in north-western India from 2002 to 2008. More recent research has reinforced that North India is most affected, and is guzzling down groundwater at a rate 70% faster than estimated earlier.

India which has the world’s largest water infrastructure faces a turbulent future. The water infrastructure continues to perform far below its optimum, as India is not allocating even a fraction of the required annual maintenance budget of \$4 billion that it needs. It faces grave dam safety issues, as was evident in the case of Kerala floods in August 2018.

India has the third largest number of big dams in the world, and with their increasing age, the issues of structural and operational safety are becoming more and more urgent, but it still does not have a dam safety act.

Soil moisture represents another major challenge. For the farmers facing increasingly irregular rains with changing climate, the increased capacity of soil to hold moisture is hugely useful, as also is the local water storage and sustained or enhanced groundwater levels.

Saving the saviour

The primary need is to address the democratic deficit in water governance. The first step in tackling this would be the recognition of this reality as a problem. The water governance ought to be made transparent, accountable and participatory in every sub-sector, including management of rivers, groundwater, floods, and biodiversity, among others.

Access to accurate water information could help one understand the risks and urgency of the situation and steer towards informed decisions.

There is an urgent need that our plans, projects and programmes get tailored to protect groundwater recharge, enhance recharge where possible, and most importantly, regulate the use of groundwater.

If groundwater sustainability becomes the officially acknowledged objective, there may not be any case for big dam projects, which both directly and indirectly adversely affects groundwater recharge and sustainability.

The capacity of the soil to store water can be increased by adding carbon to it which can be achieved with the use of greater organic inputs. More carbon in the soil also greatly mitigates the emissions-inducing climate change.

There are many sub-issues that would need to be addressed to revive the rivers. These include monitoring of water quality and environmental flows, protecting the floodplains and sustainable biodiversity in the rivers, achieving sustainable sand mining, and credible reservoir and flood management, among others.

There is a need for credible environmental and cumulative impact assessments, genuine public consultation process at multiple stages of planning and project implementation, confidence-inspiring appraisal, which includes the appointment of independent experts, and most crucially, achieving some real monitoring and compliance.

Cities need to stop the destruction of local water bodies and local tree cover, treat its sewage properly, harvest rainwater, and stop straightening and concretising the rivers and encroaching on their floodplain.

Way forward

In order to meet the future urban water challenges, there needs to be a shift in the way we manage urban water systems. An Integrated Urban Water Management approach must be adopted which involves managing freshwater, wastewater, and storm water, using an urban area as the unit of management.

The time has come to have a retrospect view on the water use and misuse to take serious actions that will lead towards sustainable urban water management.

Sustaining healthy environments in the urbanized world of the 21st century represents a major challenge for human settlements, development and management which requires flexible and innovative solutions to cope with sudden and substantial changes in water demand for people and their associated economic activities.

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